

RADIATED EMISSIONS

DATA

FOR

**QUALCOMM, INC.
10300 Campus Point Drive
San Diego, CA 92121**

Prepared by

**TÜV PRODUCT SERVICE
10040 Mesa Rim Road
San Diego, CA 92121-2912**

Measurement Requirements (CFR 47 Part 22, Paragraph 22.917(b)(2) and Part 24, Paragraph 24.238(a))

The following measurements were performed by TÜV Product Service. To the best of my knowledge these tests were conducted in accordance with the procedures outlined in Part 2 of the Commission's Rules and Regulations. The data presented below demonstrates compliance with the appropriate technical standards.



Floyd R. Fleury
EMC Manager

Emissions Test Conditions: SPURIOUS RADIATED EMISSIONS

Roof (small open area test site)

The *Spurious Radiated Emissions* measurements were performed using the following equipment:

Test Equipment Used:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Due Date
8586B	721	Spectrum Analyzer	Hewlett Packard	2542A12099	06/02
PreAmp 2 – 20 GHz	752	PreAmp	TUV PS	--	N/A*
3115	251	Antenna, Horn	Electro Mechanics Co	2595	06/02
Cable 1	733	30' cable	Universal Microwave Prod	--	N/A*
Cable 2	655	6" cable	Universal Microwave Prod	--	N/A*
FF 6549-1	778	900 MHz High Pass Filter	Sage	5	N/A*
FF 6548-2	782	2000 MHz High Pass Filter	Sage	007	N/A*

Remarks: (*) Verified

FCC Testing

REPORT No: SC202XXX TESTER: Jim Owen SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: KWC-2325 Roof
 EUT MODE: Transmit FM BICONICAL: N/A
 DATE: May 16, 2002 ERP/EIRP Fact 7 LOG: N/A
 NOTES: no detectable emissions fm 30 to 1000 MHz HORN: 251
 above 1GHz: RBW & VBW 1 MHz for Pk; RBW 1MHz and VBW 10Hz for AVG
 below 1GHz: RBW & VBW 100 kHz for Pk; RBW 100kHz and VBW 10Hz for AVG
 CF = Antenna Factor + Cable Loss - Preamp/ifier Gain + Preselector Loss

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dBm)	MAX LEVEL (dBm(d))		SPEC LIMIT (dBm)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
	pk	av	pk	av		pk	av	pk	av	pk	av					
824.04	124.4				0.0	27.0										
1648.08	58.8	56	58.2	55	-9.3	-47.8	-50.6	-13.0	-13.0	-34.8	-37.6	226	1.46	Fundamental (Low Band)	124.4	0.0
2472.12	48.4	41.4	44.7	44.7	-4.6	-52.0	-57.3	-13.0	-13.0	-44.3	-39	3	1.33		49.5	46.7
3296.16	56.4	64.3	63.7	63.7	-1.7	-34.8	-35.4	-13.0	-13.0	-21.8	-22.4	159	1.4		45.4	40.1
4120.2	60.1	59.1	57.9	56.5	0.2	-37.1	-38.1	-13.0	-13.0	-24.1	-25.1	168	1.19		62.6	62.0
4944.24	52	47	56.1	54.3	0.6	-40.7	-42.5	-13.0	-13.0	-27.7	-29.5	321	1.09		60.3	59.3
5788.28	51.5	46.6	53.2	49.3	5.1	-39.1	-43.0	-13.0	-13.0	-26.1	-30	13	1.5		56.7	54.4
6592.32	53.9	50.3	55.2	52.3	5.8	-36.4	-39.3	-13.0	-13.0	-23.4	-26.3	148	1.24		61.0	58.1
7416.36	50.8	43.8	50.8	45.2	8.2	-38.3	-43.9	-13.0	-13.0	-25.3	-30.9	350	1.3		59.0	53.4
8240.4	50.7	43.3	50.4	43.4	9.4	-37.2	-44.5	-13.0	-13.0	-24.2	-31.5	142	1.76		60.1	52.8
836.49	124.4				0.0	27.0				27.04				Fundamental (Mid Band)	124.4	0.0
1672.98	58.3	57.3	59.1	57.5	-9.1	-47.3	-48.9	-13.0	-13.0	-34.3	-35.9	258	1		50.0	48.4
2509.47	62.5	57.7	54.5	50	-4.5	-39.3	-44.1	-13.0	-13.0	-26.3	-31.1	308	2.54		58.0	53.2
3345.96	56.1	54	65.9	65.4	-1.6	-35.0	-33.5	-13.0	-13.0	-20	-20.5	178	1.68		64.3	63.8
4182.45	60.4	59.2	58.2	57	0.0	-36.9	-38.1	-13.0	-13.0	-23.9	-25.1	154	1		60.4	59.2
5018.94	54.9	51.2	59.1	57.6	0.8	-37.4	-38.9	-13.0	-13.0	-24.4	-25.9	330	1		59.9	58.4
5855.43	51.4	44.6	53.1	48	5.3	-35.0	-44.1	-13.0	-13.0	-26	-31.1	35	1		58.4	53.3
6691.92	57.2	55.4	54.8	51.7	6.1	-34.0	-35.8	-13.0	-13.0	-21	-22.8	175	1.72		63.3	61.5
7528.41	48.9	40.4	50.3	43.2	8.4	-38.6	-45.7	-13.0	-13.0	-25.6	-32.7	65	1		58.7	51.6
8364.9	49.5	39.6	49.8	40.8	9.7	-37.9	-46.9	-13.0	-13.0	-24.9	-33.9	323	1.75		59.5	50.5
848.97	124.4				0.0	27.0				27.04				Fundamental (High Band)	124.4	0.0
1697.94	58.4	55.7	57.9	55.8	-8.9	-47.9	-50.5	-13.0	-13.0	-34.9	-37.5	1	1.78		49.5	46.9
2546.91	59.4	58.2	57.8	49.5	-4.3	-42.3	-43.5	-13.0	-13.0	-29.3	-30.5	115	1.6		55.1	53.9
3395.88	59.8	58.5	68.4	68.1	-1.4	-30.3	-30.6	-13.0	-13.0	-17.3	-17.6	180	1.43		67.0	66.7
4244.85	62	60.7	58.5	56.9	-0.1	-35.4	-36.7	-13.0	-13.0	-22.4	-23.7	156	1		61.9	60.6
5093.82	55.7	53.1	62.5	61.7	1.4	-33.5	-34.3	-13.0	-13.0	-20.5	-21.3	332	1		63.9	63.1
5942.79	50.1	42.2	50.5	43.8	5.5	-41.3	-48.0	-13.0	-13.0	-28.3	-35				56.0	49.3
6791.76	61.3	60.1	60.3	58.5	6.5	-29.5	-30.8	-13.0	-13.0	-16.6	-17.8	156	1.3		67.8	66.6
7640.73	49.3	39.1			8.5	-39.5	-49.7	-13.0	-13.0	-26.5	-36.7	157	1.7		57.8	47.6
8489.7			48.6	37.9	10.0										58.6	47.9

REPORT No: SC202XXX TESTER: Jim Owen SPEC: FCC Part 22 para 22.917(b)(2)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: KWC-2325 TEST SITE: Roof
 EUT MODE: Transmit CDMA BICONICAL: N/A
 DATE: May 16, 2002 ERP/EIRP Factor 7 LOG: N/A
 HORN: 251
 NOTES: no detectable emissions fm 30 to 1000 MHz
 above 1GHz: RBW & VBW 1 MHz for PK; RBW 1MHz and VBW 10Hz for AVG
 below 1GHz: RBW & VBW 100 KHz for PK; RBW 100KHz and VBW 10Hz for AVG
 CF = Antenna Factor + Cable Loss - Preamp/ifier Gain + Preselector Loss

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dBm)	MAX LEVEL (dBm(d))		SPEC LIMIT (dBm)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
	pk	av	pk	av		pk	av	pk	av	pk	av					
824.7	122.9				0.0	25.5		-13.0		-30.2	-43.3			Fundamental (Low Band)	122.9	0.0
1649.4	59.8	49.2	63.4	50.3	-9.3	-43.2		-13.0							54.1	41.0
2474.1					-4.6									noise floor	-4.6	-4.6
3298.8	56.9	46.8	66.1	57.3	-1.7	-33.0		-13.0		-20	-28.8	174	1.6		64.4	55.6
4123.5	62	52.1	58.6	48.3	0.2	-35.2		-13.0		-22.2	-32.1	188	2		62.2	52.3
4948.2	50.8	39.2	57.1	46.1	0.6	-39.7		-13.0		-26.7	-37.7	73	1.2		57.7	46.7
5772.9	50.5	38.6	51	39.1	5.1	-41.3		-13.0		-28.3	-40.2	171	1.85		56.1	44.2
6597.6	55.5	42.5	56.3	43	5.8	-35.3		-13.0		-22.3	-35.6	149	1.44		62.1	48.8
7422.3			51.2	37.7	8.2	-37.9		-13.0		-24.9	-38.4	64	1.46		59.4	45.9
8247	49.2	36.4	48.9	36.5	9.4	-38.7		-13.0		-25.7	-38.4	363	1.54		58.6	45.9
836.49	122.9				0.0	25.5		-13.0						Fundamental (Mid Band)	122.9	0.0
1672.98	58.1	49.7	58.6	49.5	-9.1	-47.8		-13.0		-34.8	-43.7	354	2.15		49.5	40.6
2509.47	56.6	48.8	53.4	44.6	-4.5	-45.2		-13.0		-32.2	-40	203	1.58		52.1	44.3
3345.96	53.8	43.6	66.1	57.4	-1.6	-32.8		-13.0		-19.8	-28.5	179	1.28		64.5	55.8
4182.45	59.4	49.5	60.4	50.1	0.0	-36.9		-13.0		-23.9	-34.2	180	1.65		60.4	50.1
5018.94	54	42.2	60.2	47.7	0.8	-36.3		-13.0		-23.3	-35.8	342	1		61.0	48.5
5855.43	51.7	38.5	51.2	38.7	5.3	-40.4		-13.0		-27.4	-40.4	30	1		57.0	44.0
6691.92	55.5	42.7	54.9	41.7	6.1	-35.7		-13.0		-22.7	-35.5	40	2		61.6	48.8
7528.41			49.7	36.5	8.4	-39.2		-13.0		-26.2	-39.4	51	1.51		58.1	44.9
8364.9					9.7									noise floor	9.7	9.7
848.31	122.9				0.0	25.5		-13.0						Fundamental (High Band)	122.9	0.0
1686.62	66.2	54.6	59.9	50	-8.9	-40.1		-13.0		-27.1	-38.7	0	1		57.3	45.7
2544.93	52.3	40.2	51.9	41.2	-4.3	-49.4		-13.0		-36.4	-47.5	0	1		48.0	36.9
3393.24	56.2	46.6	68.2	59.5	-1.4	-30.5		-13.0		-17.5	-26.2	175	1.3		66.8	58.1
4241.55	61.2	51	61.3	51.3	-0.1	-36.1		-13.0		-23.1	-33.1	208	1.5		61.2	51.2
5089.86	59.7	47.9	62.9	50.8	1.3	-33.1		-13.0		-20.1	-32.2	347	1		64.2	52.1
5938.17	51.6	39.1			5.5	-40.2		-13.0		-27.2	-39.7	228	1		57.1	44.6
6786.48	55.4	42.8	58.9	45.7	6.5	-32.0		-13.0		-19	-32.2	223	1	noise floor	65.4	52.2
7634.79					8.5									noise floor	8.5	8.5
8483.1					10.0									noise floor	10.0	10.0

REPORT No: SC202XXX TESTER: Jim Owen SPEC: FCC Part 24 para 24.238(a)
 CUSTOMER: Kyocera Wireless TEST DIST: 3 Meters
 E U T: KWC-2325 TEST SITE: Roof
 EUT MODE: Transmit PCS BICONICAL: N/A
 DATE: May 16, 2002 ERP/EIRP Factor 5.5 LOG: N/A
 NOTES: no detectable emissions fm 30 to 1000 MHz HORN: 251
 above 1GHz: RBW & VBW 1 MHz for Pk; RBW 1MHz and VBW 10Hz for AVG
 below 1GHz: RBW & VBW 100 kHz for Pk; RBW 100kHz and VBW 10Hz for AVG
 CF = Antenna Factor + Cable Loss - Pre-amplifier Gain + Preselector Loss

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dB/m)	MAX LEVEL (dBm(d))		SPEC LIMIT (dBm)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes	dBuV/m	dBuV/m
	pk	av	pk	av		pk	av	pk	av	pk	av					
1851.25	128.6				-7.8	25.5	-49.7	-13.0	-13.0	-29.1	-36.7	0	1.4	Fundamental (Low Band)	120.8	-7.8
3702.5	53.6	46	52.9	44.3	-0.4	-42.1	-33.4	-13.0	-13.0	-29.3	-20.4	0	1.6		53.2	45.6
5553.75	60.1	52	65.5	57.4	4.5	-25.3	-41.5	-13.0	-13.0	-16.1	-28.5	300	1		70.0	61.9
7405	55	44.6	56	45.6	8.2	-31.1	-46.9	-13.0	-13.0	-21.6	-33.9	73	1.3		64.2	53.8
9256.25	50.3	38	49.1	37	10.4	-34.6	-43.0	-13.0	-13.0	-17.6	-30	155	1.76	noise floor	60.7	48.4
11107.5					13.1										13.1	13.1
12958.75	51.9	39.5	50.2	38	12.7	-30.6								noise floor	64.6	52.2
14810					16.1									noise floor	16.1	16.1
16661.25					18.5									noise floor	18.5	18.5
18512.5					#REF!									noise floor	#REF!	#REF!
1880	128.4				-7.6	25.5	-47.4	-13.0	-13.0	-26.5	-34.4	177	1.55	Fundamental (Mid Band)	120.8	-7.6
3760	51.6	42.4	56	48.1	-0.3	-39.5	-35.1	-13.0	-13.0	-17.5	-22.1	8	1		55.7	47.8
5640	61.6	52.8	64.1	55.5	4.7	-26.5	-41.0	-13.0	-13.0	-17.8	-28	304	1		68.8	60.2
7520	54.5	44.2	56	45.8	8.4	-30.8	-49.9	-13.0	-13.0	-25.1	-36.9	204	1		64.4	54.2
9400	47.2	35.4	46.9	34.1	10.0	-38.1								noise floor	57.2	45.4
11280					13.2									noise floor	13.2	13.2
13160					13.2									noise floor	13.2	13.2
15040					17.0									noise floor	17.0	17.0
16920					19.5									noise floor	19.5	19.5
18800					#REF!									noise floor	#REF!	#REF!
1908.75	128.2				-7.4	25.5	-45.3	-13.0	-13.0	-24.6	-32.3	151	1	Fundamental (High Band)	120.8	-7.4
3817.5	55.5	47.3	57.8	50.1	-0.1	-37.6	-35.8	-13.0	-13.0	-13	-22.8	1	1		57.7	50.0
5726.25	63.3	53.4	64.3	54.5	4.9	-26.0	-39.9	-13.0	-13.0	-17.5	-26.9	13	2		69.2	59.4
7635	53.9	44.2	56.2	46.8	8.5	-30.5	-51.4	-13.0	-13.0	-26	-38.4	137	1.36		64.7	55.3
9543.75	45.7	34.1	46.5	33.8	9.8	-39.0								noise floor	56.3	43.9
11452.5	45.7	33.5	45.7	33.5	13.3									noise floor	59.0	46.8
13361.25			46.6	33.8	14.0									noise floor	60.6	47.8
15270					17.3									noise floor	17.3	17.3
17178.75					21.1									noise floor	21.1	21.1
19087.5					#REF!									noise floor	#REF!	#REF!

Photograph of Test Setup



Photograph of Test Setup

